



NADAR HR.SEC.SCHOOL, RAJAPALAYAM.

XII - COMPUTER SCIENCE - ENGLISH MEDIUM

SECOND MID ANSWER KEY 2024



1.	Which of the following is an RDBMS?	C)	Microsoft Access
2.	The Relational Database model was first proposed	D)	1970
3.	Which commands provide definitions for creating table structure, deleting relations, and modifying relation schemas.	A)	DDL
4.	Which of the following SQL command does not come under Transfer Control Language (TCL)	B)	Grant
5.	The expansion of CRLF is	D)	Carriage Return and Line Feed
6.	Which of the following is a string used to terminate lines produced by writer()method of csv module?	A)	Line Terminator
7.	The module which allows you to interface with the Windows operating system is	A)	OS module
8.	Which of the following contains the name of the C++ file which is to be processed	D)	argv[1]
9.	Which of the following keyword avoid the duplicate?	C)	distinct
10.	Identify the package manager for Python packages, or modules.	B)	pip
11.	What is normalization? Database normalization was first proposed by <i>Dr. Edgar F Codd</i> as an integral part of RDBMS in order to Reduce data redundancy and improve data integrity.		
12.	Write the difference between table constraint and column constraint? ➤ Table constraint: Table constraint apply to a group of one or more columns. ➤ Column constraint: Column constraint apply only to individual column.		
13.	Mention the two ways to read a CSV file using Python. 1. Use the csv module's reader function 2. Use the DictReader class.		
14.	What is the use of cd command? Give an example. ➤ cd command refers to change directory. ➤ the prompt shows the "C:\>". To goto the directory "pyprg", type the command 'cd pyprg' in the command prompt. ➤ It changes to "c:\pyprg>"		
15.	What is MinGW? What is its use? ➤ MinGW refers to a set of runtime header files, used in compiling and linking the code of C, C++ and FORTRAN to be run on Windows Operating System. ➤ MinGW allows to compile and execute C++ program dynamically through Python program using g++.		
16.	What is Data Visualization. • Data Visualization is the graphical representation of information and data. • The objective of Data Visualization is to communicate information visually to users.		
17.	What is the advantage of declaring a column as "INTEGER PRIMARY KEY"? If a column of a table is declared to be an INTEGER PRIMARY KEY, then ✓ whenever a NULL will be used as an input for this column, the NULL will be automatically converted into an integer which will one larger than the highest value so far used in that column. ✓ If the table is empty, the value 1 will be used.		
18.	Explain Cartesian product with a suitable example. ❖ Cross product is a way of combining two relations. The resulting relation contains, both relations being combined. ❖ A x B means A times B, where the relation A and B have different attributes.		
19.	Write a SQL statement to modify the student table structure by adding a new field. ALTER TABLE student ADD address char(50);		
20.	Write a Python program to read a CSV file with default delimiter comma (,). <pre>import csv readFile=open('student.csv','r') reader=csv.reader(readFile) for row in reader: print(row) readFile.close()</pre>		
21.	What are the applications of scripting language? 1. To automate certain tasks in a program. 2. Extracting information from a data set. 3. Less code intensive as compared to traditional programming language. 4. can bring new functions to applications and glue complex systems together.		
22.	fetchall(), fetchone() ➤ cursor.fetchall() method is to fetch all rows from the database table ➤ cursor.fetchone()method returns the next row of a query result set or None in case there is no row left.		
23.	What is the use of Where clause? Give a python statement using the where clause. ➤ The WHERE clause is used to extract only those records that fulfil a specified condition. cursor.execute("SELECT DISTINCT (Grade) FROM student where gender='M'")		
24.	What is scatter plot? A scatter plot is a type of plot that shows the data as a collection of points. The position of a point depends on its two-dimensional value, where each value is a position on either the horizontal or vertical dimension.		
25.	Aggregate Functions A) COUNT() function : The SQL COUNT() function returns the number of rows in a table satisfying the criteria specified in the WHERE clause. COUNT() returns 0 if there were no matching rows. AVG(): The AVG() function returns the average value of the selected column. SUM(): The sum() function returns the total value of the selected column. MAX(FUNCTIONS) The MAX() function returns the largest value of the selected column. MIN() FUNCTIONS The MIN() function returns the smallest value of the selected column.		

25. B)	<p>Explain the various buttons in a matplotlib window.</p> <ul style="list-style-type: none"> ➤ Home Button: The Home Button will help to return back to the original view. ➤ Forward/Back buttons: These buttons can be used to move back to the previous point you were at, or forward again. ➤ Pan Axis: This cross-looking button allows you to click it, and then click and drag your graph around. ➤ Zoom: The Zoom button lets you click on it, then click and drag a square that you would like to zoom into specifically. Zooming in will require a left click and drag. You can alternatively zoom out with a right click and drag. ➤ Configure Subplots: This button allows you to configure various spacing options with your figure and plot. ➤ Save Figure: This button will allow you to save your figure in various forms.
26. A)	<p>Write the rules to be followed to format the data in a CSV file.</p> <ol style="list-style-type: none"> 1. Each record (row of data) is to be located on a separate line, delimited by a line break by pressing enter key. 2. The last record in the file may or may not have an ending line break. 3. There may be an optional header line appearing as the first line of the file with the same format as normal record lines. 4. Within the header and each record, there may be one or more fields, separated by commas. Spaces are considered part of a field and should not be ignored. The last field in the record must not be followed by a comma. 5. Each field may or may not be enclosed in double quotes. If fields are not enclosed with double quotes, then double quotes may not appear inside the fields. 6. Fields containing line breaks (CRLF), double quotes, and commas should be enclosed in double-quotes. For example: 7. If double-quotes are used to enclose fields, then a double-quote appearing inside a field must be preceded with another double quote.
26. B)	<p>Write the syntax for getopt() and explain its arguments and return values. This function parses command-line options and parameter list.</p> <p>Syntax: <code><opts>,<args>=getopt.getopt(argv, options, [long_options])</code></p> <ul style="list-style-type: none"> ✓ argv – This is the argument list of values to be parsed (splited) ✓ options – This is string of option letters that the Python program recognize as, for input or for output, with options (like 'i' or 'o') that followed by a colon (:). Here colon is used to denote the mode. ✓ long_options – This contains a list of strings. Argument of Long options should be followed by an equal sign ('='). ✓ getopt() method returns value consisting of two elements. Each of these values are stored separately in two different list (arrays) opts and args. ✓ opts contains list of splitted strings like mode and path. ✓ args contains error string, if at all the comment is given with wrong path or mode. args will be an empty list if there is no error.
27. A)	<p>Explain the different types of data model.</p> <p>Hierarchical Model:</p> <ul style="list-style-type: none"> ➤ Hierarchical model was developed by IBM. ➤ In Hierarchical model, data is represented as a simple tree like structure form. This model represents a one-to-many relationship ➤ One child can have only one parent but one parent can have many children. ➤ This model is mainly used in IBM Main Frame computers. <p>Relational Model:</p> <ul style="list-style-type: none"> ➤ The Relational Database model was first proposed by E.F. Codd in 1970. ➤ Nowadays, it is the most widespread data model used for database applications around the world. ➤ The basic structure of data in relational model is tables (relations). ➤ All the information's related to a particular type is stored in rows of that table. ➤ A relation key is an attribute which uniquely identifies a particular tuple. <p>Network Model:</p> <ul style="list-style-type: none"> ➤ Network database model is an extended form of hierarchical data model. ➤ The difference between hierarchical and Network data model is: <ul style="list-style-type: none"> ❖ In hierarchical model, a child record has only one parent node. ❖ In a Network model, a child may have many parent nodes. It represents the data in many-to-many relationships. ❖ This model is easier and faster to access the data. <p>Entity Relationship Model (ER model):</p> <ul style="list-style-type: none"> ➤ In this database model, relationships are created by dividing the object into entity and its characteristics into attributes. ➤ It was developed by Chen in 1976. ➤ This model is useful in developing a conceptual design for the database. ➤ It is very simple and easy to design logical view of data. ➤ The different shapes used in ER diagram is <p>Object Model:</p> <ul style="list-style-type: none"> ➤ Object model stores the data in the form of objects, attributes and methods, classes and Inheritance. ➤ This model handles more complex applications, such as Geographic information System (GIS), scientific experiments, engineering design and manufacturing. ➤ It is used in file Management System. ➤ It represents real world objects, attributes and behaviours.
27. B)	<p>(1) Command for inserting columns in table format: ALTER TABLE <table-name> ADD <column-name><data type><size>; ALTER TABLE Student ADD Address char;</p> <p>(2) Command for modifying an existing column in the table: ALTER TABLE <table-name> MODIFY<column-name><data type><size>; ALTER TABLE Student MODIFY Address char (25);</p> <p>(3) Command for renaming existing column: ALTER TABLE <table-name> CHANGE old-column-name new-column-name, new coloum definition; ALTER TABLE Student CHANGE Address City char(20);</p> <p>(4) The command to remove a column or all columns: ALTER TABLE <table-name> DROP COLUMN <column-name>; ALTER TABLE Student DROP COLUMN City;</p>

